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ABSTRACT

The Let's Be Amigos bilingual education program served over 2,000 students in 12 schools in Philadelphia. Model A provided bilingual education to English- and Spanish-dominant pupils in prekindergarten through Grade 6. Model B provided bilingual instruction to Spanish-dominant pupils in kindergarten through Grade 5. The ARRIBA component provided bilingual instruction to Spanish-dominant immigrant pupils in Grades 4 through 12. The program was generally well managed. It received support from principals of schools in which it was conducted. The program was effective in enhancing reading and language arts competencies of Spanish-dominant pupils. Longitudinal analysis of the reading performance in English of Spanish-dominant elementary school pupils showed that there was more growth in this skill than was observed with previously used evaluation techniques. Testing of high school ARRIBA pupils' reading performance in Spanish showed that it was poor, probably because many had several years of all-English instruction prior to participating in Let's Be Amigos. The high school ARRIBA component clearly enhanced the probability that tenth-grade Hispanic pupils would graduate from high school three years later. English-dominant Model A pupils' reading competencies are substantial, with sixth-grade pupils performing at the third-grade rural Puerto Rican norms. (Author/CFM)

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TITLE VII BILINGUAL PROJECT
"LET'S BE AMIGOS"
EVALUATION OF THE SIXTH YEAR, 1974-1975

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January, 1976

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EXECUTIVE SUMMARY

The Let's Be Amigos program of Bilingual Education served over 2,000 students in 12 schools in Philadelphia. Model A provided bilingual education to English- and Spanish-dominant pupils in prekindergarten through Grade 6. Model B provided bilingual instruction to Spanish-dominant pupils in kindergarten through Grade 5. The ARRIBA component provided bilingual instruction to Spanish-dominant inmigrant pupils in Grades 4 through 12.

The 1974-1975 evaluation showed that the program was generally well managed. It received support from principals of schools in which it was conducted. The program was effective in enhancing reading and language arts competencies of Spanish-dominant pupils in most grade levels of components for which preprogram comparison data were available. Modifications in the fourth through sixth grades of Model A seem to have reduced the effectiveness of that component in teaching Spanish-dominant pupils to read their mother tongue.

Longitudinal analysis of Spanish-dominant elementary school pupils, reading performance in English showed that there was more growth in this skill than was observed with previously-used evaluation techniques.

Testing of high school ARRIBA pupils' reading performance in Spanish showed that it was poor, probably because many had several years of all-English instruction prior to participating in Let's Be Amigos. The high school ARRIBA component clearly enhanced the probability that tenth-grade Hispanic pupils would graduate high school three years later.

English-dominant Model A pupils' reading competencies are substantial, with sixth-grade pupils performing at the third-grade rural Puerto Rican norms.

SIX-YEAR CUMULATIVE ABSTRACT

The Let's Be Amigos program provided bilingual education to Spanish-dominant children at 12 schools. It also provided instruction to English-dominant pupils at two schools. Three instructional components operated. Model A worked with all pupils in prekindergarten to Grade 4 at Potter-Thomas School, and English- and Spanish-dominant pupils in Grades 5 and 6 who have been transfered to the Thomas School due to overcrowding. Model B worked with Spanish-dominant children in kindergarten to Grade 5 at two elementary schools, and ARRIBA worked with Spanish-dominant immigrants in Grades 4 through 12 at nine schools.

The findings of the 1974-1975 evaluation are reported in nine chapters which follow the major conclusions drawn by the evaluators, as abstracted below:

.Process evaluation showed that the program continued to be operated in a satisfactory manner. Major changes included upward cycling of Model A to the sixth grade, upward cycling of Model B to the fifth grade at Ludlow elementary school, reorganization of Model B at Miller elementary school, phasing out most third-grade ARRIBA instruction, moving Model A fifth- and sixth-grade classes from Potter-Thomas to Thomas school, and an increase in emphasis on instruction in English in fourth through sixth grades of the two Model School components.

.Principals' review of the project, operation in their school showed that they were generally satisfied with it. They voiced concern about aspects of supervision, the need for greater variety of program materials, and efforts to assure that all staff had competence in their second language.

.Testing of Model-School-component pupils in prekindergarten through third grade on oral-aural microobjectives showed that pupils were more competent in their mother tongue then program planners expected. Spanish-dominant pupils were nearly always more competent in English than program planners expected. In contrast, English-dominant pupils' competence in Spanish was at about the level expected by program planners. Comparison of pupils newly admitted to the program with pupils who had one or more years experience in it suggested that first language competence was not enhanced by program participation. In contrast, second language competence was enhanced by Model School program participation. These results suggested that oral-aural-microobjectives need to be reexamined to determine whether revision is necessary.

.Kindergarten pupils' performance on the Boehm Test of Basic Concepts was above preprogram comparison-group competence. Pupils were close to, or

above the levels of the test makers' low socioecomonic-status norm group. Prekindergarten pupils' performance on Part 1 of the Boehm test was about the same level as that obtained the previous year.

.Elementary school testing of spanish-dominant pupils; ,reading in their mother tongue showed that pupils in first through third grade equalled or exceeded the reading competence of the rural Puerto Rican norm group. In these grade levels,, performance also exceeded levels of preprogram Philadelphia comparison groups. In the upper elementary grade levels, performance was poorer than that of the rural Puerto Rican norm group. In Model A, the Spanish-dominant pupils in Grades 4-6 did not differ significantly from the preprogram comparison group. Model B pupils' scores were better than the comparison group at a statistically significant level. English-dominant pupils of Model A examined in the citywide program of achievement testing showed a score pattern similar to that obtained for the Spanish-dominant group --pupils in lower grade levels equalled or exceeded national norms, and pupils in the upper elementary grades had lower scores than norm groups.

.Spanish-dominant pupils' performance in English was at the level stated by program objectives in the third grade. In subsequent grade levels, performance was poorer than anticipated. Longitudinal analysis of results of Model A testing showed that Spanish-dominant pupil competence improved as the program matured. It also suggested that pupils with continuous experience in Model A improved at faster rates than pupils who had attended school elsewhere.

.English-dominant pupils' mastery of Spanish reading continued to be at a high level. Separate examinations of results for Spanish- and English-surnamed pupils showed that the high level of competence of English-dominant pupils cannot be attributed solely to the presence of pupils of Hispanic origin in this group.

.ARRIBA junior high school pupil performance was below Puerto Rican norms, but better than that of the preprogram comparison group.

.ARRIBA senior high school Spanish reading performance was low, averaging in the 5th to 11th percentile on Puerto Rican norms. Analyses suggested that years spent studying in an all-English program tended to lower performance. Pupils who reported missing one or more years of schooling performed more poorly than those who had attended school continuously.

.Previous years' graduation rate findings were confirmed. A statistically significant difference between tenth-grade ARRIBA students in 1972 and nonparticipating Spanish-surnamed students showed that ARRIBA students were more likely to graduate.

.An attempt to replicate the 1973-1974 finding that the Let's Be Amigos program participation enhanced self-esteem failed. Compromises in the experimental design may have been the cause of this failure.

Previous evaluations listed other program findings not reviewed in 1974-1975. The most important are listed below.

1. Surveys of parents and pupils have shown wide support for the program.

2. ARRIBA pupils had better grades and behavior ratings than preprogram comparison groups.

3. English-dominant pupils' performance on standardized tests in English equalled or exceeded that of preprogram comparison groups.

4. Model A teachers believed primary-grade pupils showed more adaptive classroom behaviors when they were in classes conducted in their mother tongue.

5. A follow-up study of fifth and sixth grade ARRIBA pupils showed that there was a tendancy for teachers to move pupils out of the program too quickly.

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CHAPTER 1. PROGRAM STATUS IN 1974-1975

The Let's Be Amigos sixth program year was 1974-1975. During that year 2,163 pupils were served by the program, about two-thirds of whom came from Spanish-speaking or bilingual households. Instruction of the pupils occurred in three distinct educational components, Model A, Model B, and ARRIBA. These were supported by programs of curriculum development, staff development, community relations, and supervision.

Model A was an educational component at Potter-Thomas and Thomas Schools. Prekindergarten through Grade 4 were operational at the Potter-Thomas site. Grades 5 and 6 were conducted at the Thomas School because of overcrowding. The Thomas School was administered separately from the Potter-Thomas School. At Potter-Thomas, all pupils were enrolled in the Model A program. At Thomas School, only pupils who came from the Potter-Thomas program were enrolled in Model A, and there were other pupils at the site. In both schools, an English to Speakers of Other Languages (ESOL) teacher provided support for new pupils whose competencies were not adequate for the regular instructional pattern of their grade.

During the sixth program year, Model A served 1,376 pupils. Roughly half the pupils received an instructional sequence designed for English-dominant pupils; the remainder received the instructional sequence for Spanish dominants. This was the first year that instruction was offered in the sixth grade.

In this component, English-dominant and Spanish-dominant teachers worked in teams. Pupils moved between the two teachers for instruction in the two languages. Prekindergarten, kindergarten, and first-grade instruction was primarily in the pupils' mother tongue, for less than one hour per day. In grades 2 and 3, the instructional time in the second language increased, until in Grades 4, 5, and 6 both English- and Spanish-dominant pupils received 70% English instruction and 30% Spanish instruction.

Model B was operational at two elementary schools, Miller and Ludlow. It served 212 Spanish-dominant pupils in kindergarten and first grade in Miller, and first through fifth grades in Ludlow. The instructional content parallelled that of the Spanish-dominant sequence of Model A.

ARRIBA was designed to serve new arrivals to the mainland. It served 575 Hispanic pupils--83% of Spanish-dominant households, and 17% of bilingual households. Eighty-six percent were reported to have been born in Puerto Rico or other Spanish-speaking countries. Instruction was provided in fourth to twelfth grade at three elementary, two junior high, and four senior high schools.

At the elementary and junior high school levels of this component, pupils studied four major subjects in Spanish (mathematics, science, social studies, and Spanish as a first language). They also studied English to Speakers of Other Languages.

In senior high schools, students had individual rosters permitting them to mix regular English class offerings with the Spanish ones of the ARRIBA program. The special courses offered in Spanish were in all major subject areas--mathematics, sciences (e.g., chemistry, physics), social studies, Spanish as a first language, and commercial courses at one school. Students at all high school sites also had an opportunity to study ESOL.

Modifications in the instructional program of Let's Be Amigos were instituted in 1974-1975 to reflect the maturation of the program, respond to demands of the environment in which the program operated, or address issues raised by previous program performance. The major changes are cited below.

Upward Cycling of Model A. In 1969-1970 Model A was initiated in prekindergarten, kindergarten, and first grade. In each subsequent year, a grade level had been added. In 1974-1975 the sixth grade was added, completing the elementary school instructional sequence.

Thomas School Site- Fifth and Sixth Grades. Due to overcrowding of the Potter-Thomas School, fifth and sixth grades of Model A were conducted at the Thomas School. This school building was closed in 1969 when the new Potter-Thomas school was opened. The pupil population at Thomas differed from what would be expected if it was a mere continuation of the Potter-Thomas program. First, the number of pupils being served was found to be fewer than expected if all Potter-Thomas pupils had continued in the program, or if each student leaving the school neighborhood had been replaced by a new admission.

In 1973-1974, 199 pupils were enrolled in the Model A fourth grade but in the year of this report, 137 pupils -- 69% of the expected number--were enrolled in the fifth grade. In 1973-1974, 78 pupils were enrolled in the Model A fifth grade (the low number was due to space limitations in rented quarters). During the year of this report 63 pupils (80%) were served. These figures suggest that there has been a substantial reduction in the number of pupils served by the program in the transition from the Potter-Thomas to the Thomas School site.

Examination of program records of family backgrounds of pupils showed that the number of Hispanic-origin pupils was much higher at Thomas School than at Potter-Thomas. At Potter-Thomas, 40% of the pupils came from English-speaking families; at Thomas only 25% came from English-speaking families. These data suggest that English-background pupils in Model A are the ones lost to the program in the Potter-Thomas to Thomas transition.

Modification of the Instructional Day. In order to enhance the rate of growth of both English- and Spanish-dominant pupils in English, the amount of English contact time of fourth, fifth and sixth graders in Model A was modified. Previously,

pupils received half a day in English and half in Spanish instruction. In 1974-1975, pupils had 70% English and 30% Spanish contact time. This instructional pattern was implemented in part through the use of itinerant specialist teachers in reading, sciences, and art, who provided instruction during regular teachers' 45-minute preparation periods.

Reorganization of Model B at Miller. In 1973-1974, the Model B program at Miller served one second-grade class. In 1974-1975, the program at this school was reorganized in order to develop a program which would cycle upward through the grades. A bilingual kindergarten (with English- and Spanish-dominant pupils) was established. A first-grade Model B class was also organized. In subsequent years, it was expected that one new grade level would be added each year.

Upward Cycling of Model B at Ludlow. In 1973-1974, the program was cycled upward to Grade 5. The fourth- and fifth-grade classes at Ludlow included both English- and Spanish-dominant pupils. The major part of the instructional day was taught by an English-speaking teacher, with a Spanish as a first language specialist providing instruction to Spanish-dominant children for about 90 minutes per day. Pupils who were judged to have insufficient competence in English for participation in classes of this type were assigned to the Ludlow ARRIBA component.

With only six exceptions, pupils in ARRIBA in 1974-1975 were in Grades 4 or higher. This change was brought about for different reasons at the two ARRIBA elementary schools which had served third grade in the past. At Waring elementary school, the Bilingual Follow Through Model served Spanish-dominant pupils in the third grade. At Ludlow, pupils who would have been in ARRIBA's third grade in previous years were enrolled in the school's Model B classes.

Monitoring. As in the previous year, monitoring data were gathered in visits to the schools by evaluation staff members. In 1974-1975, a reduction of evaluation resources required that most visits be made during a three-month period -- November, December, and January. All classrooms were visited once, and most were visited twice. A total of 96 observations were made -- 43 in Model A, nine in Model B, and 44 in the ARRIBA component. (When numbers of observations do not total 96, it is because the activity observed on some occasions did not lend itself to classification.)

Sixty-nine observations were of classes of Spanish-dominant pupils, 18 were of English-dominant pupils, and nine were of mixed groups. Ninety-one observations were made during regular classroom instruction; the remaining five were of special class activities. The evaluators found that program's implementation was in conformity with the proposal's specifications.

In 47 observations, Spanish was the language of instruction, while English was the language in 48. In 91% of these visits, the teachers were observed to use only the target language of the instructional activity, and therefore were conforming with project design.

In 86 of the visits, materials and equipment were judged to be in sufficient quantity. In 89 visits, it was felt that the materials were appropriate to the needs of the classroom; one or more inadequacies were observed during four visits.

In facilities were excellent in 45 of the cases, adequate in 43, and eight classrooms at the Thomas School were judged to be inadequate due to construction work.

In 46 of the visits, materials used were commercially published, in seven cases were teacher made, and in 39 cases materials were produced and supplied by the Curriculum Development Center of the project.

A traditional mix of instructional formats was observed. In 87 visits the classes were working as a whole, in 14 cases pupils were doing group work, and in 13 instances they were working individually.

In only two of the 96 classrooms visited were the pupils unreceptive to their teacher's leadership, showing a lack of interest in the task.

Last year low attendance (less than 75% of pupils enrolled) was observed during 40% of the visits. Attendance at this level was still evident in 1974-1975. During 31 of the 96 class visits (32%) fewer than 75% of the pupils on roll were present.

Summer Institute. A summer teacher-training institute was conducted in the summer of 1974 by the Let's Be Amigos project. The program was conducted by the School District and Temple University. Twenty-four Spanish-dominant adults with credits equivalent to at least one half of a Bachelor's degree participated. Twenty-one of these participants completed 12 credits of instruction during the summer, began teaching in Fall 1974, and continued with the part-time university study necessary for completion of their degree and for Pennsylvania teacher certification.

Curriculum Development. The 1974-1975 proposal committed the Let's Be Amigos staff to development of a wide variety of curriculum materials during a five-year period. During the fiscal year 1974-1975, curriculum writing involved teachers in the program, outside the program, and those on special assignment who worked exclusively in curriculum development. All were supervised by the coordinator of Curriculum Development.

According to the coordinator of Curriculum Development, the following materials were completed and released for distribution during 1974-1975.

Roberto Clemente: Originally scheduled for release in 1973-1974, distributional problems resulted in release during 1974-1975. This material is for high school students whose dominant language is Spanish. It presents the late Puerto Rican baseball star as an outstanding humanitarian and family man, a natural athlete, and a hero to millions of baseball fans around the world. A teacher's guide, student workbook, recordings of Clemente's voice, and pictures are included.

Mis primeros pasos a la lectura, Books 3-4. Books 3 and 4 were written and distributed this year. This is a reading supplement for use with the Laidlaw series. It teaches prereading and reading-readiness skills to pupils whose dominant language is Spanish and who are in grades K-4. It includes a variety of enrichment activities useful in preparing pupils for reading. It continues the series of supplementary materials for the Laidlaw texts released in the past.

Vistas puertorriquenias (Revised Edition). Written in 1973-1974, modifications were made on taped dialogues which are a part of the instructional package. The student workbook and teacher's guide were not changed. The materials teach geographical, social, and cultural aspects of the island of Puerto Rico. They are designed for use in high school Spanish-first-language courses.

Mi primier libro y mi cultura. This is a reader for Spanish-dominant children in kindergarten or first grade, covering aspects of their Hispanic culture. It was prepared by teachers of the Summer 1974 institute.

Tu y tu vida, series: Las drogas que te pueden afectar. This is a three-unit social studies series for Spanish-dominant students in Grades 4-6. La soledad and Los momentos desocupados were both previously released and distributed. The third unit, Las drogas que te pueden afectar, describing the effects of drugs, was released this year.

As was the case in past years, a curriculum-evaluation checklist was used in determining whether materials that were being produced met quality criteria established for the program. Results obtained are shown in Table 1.1. Ratings were made by the program's coordinator of Curriculum Development.

As can be seen in the table, the completed materials meet, for the most part, the criteria established for the curriculum-development process. The two areas

in which most of the materials failed to meet the criteria were measured by items six and eight. Most materials did not have clearly stated objectives and adequate evaluation procedures. These were the same criteria most frequently not met in materials produced over the last several years.

Curriculum Distribution Services. In 1974-1975, two staff members served as coordinators for the Miami-based Spanish Curriculum Development Center (SCDC). They distributed the materials and they trained staff in schools in use of SCDC materials in the North-Eastern region of the United States.

Program Cost. Table 1.2 shows the federal fund expenditure in operating the Let's Be Amigos program in 1974-1975 (excluding the cost of evaluation, audit, and the curriculum distribution service described in the preceding section). The overall per pupil federal expenditure in 1974-1975 had dropped about $60 per pupil. This drop was due to a small increase in numbers of pupils served and a reduction of expenditures in all budget categories except clerical help. The reduction of expenditures was due to increased local support of the program, as salaries increased substantially during the fiscal year.

Evaluators' Comments

The Let's Be Amigos program continued to be operated in a manner consistant with the proposal specifications. Modifications of the instructional day at upper grade levels of the Model School programs suggested that increased emphasis is being placed on development of English competence. As will be seen in Chapter 5, this change may result in some loss of Spanish-dominant pupils' development in their mother tongue.

Monitoring data suggested that some improvement over the previous year occurred in attendance, although absenteeism was still high in a large number of classes. Decreased per-pupil federal cost showed that the program is becoming increasingly a local endeavor.

Table 1.1. Coordinator of Curriculum Development's Review of Five Sets of Materials Completed and Released in 1974-1975.

	Yes	No	Not Applicable
1. Appropriate for intended grade level(s)	5	0	0
2. Appropriate for students' cultural background, interest level, and experiential field	5	0	0
3. Appropriate for students' previous knowledge in the subject matter or field	2	0	3
4. Specific objectives clearly stated	2	3	0
5. Sequential organization & structure	2	0	3
6. Observable performance outcomes stated	1	3	1
7. Reasonable variety of learning activities	5	0	0
8. Evaluation procedures included	0	4	1
9. Provision for individual rate of learning	4	1	0
10. Teacher guide, including suggested classroom procedures	3	1	1
11. Availability of equipment	2	0	3
12. Aids, materials needed to teach unit, and where obtainable, were specified	2	0	3

Table 1.2. Direct Expenditures for the Title VII 1974-1975

Component	Salaries*	Supervision, Administration Curriculum Development**	Clerical Expenses**	Books, Teaching Materials**	Misc. Expenses Supplies**	Total	Cost per Pupil
Model A No. of Pupils 1376	$147,590.01	$ 75,533.76	$33,415.92	$ 8,514.74	$26,107.46	$291,161.89	$211.60
Model B No. of Pupils 212	23,944.16	11,802.15	5,221.24	1,330.43	4,079.29	46,377.27	218.76
ARRIBA No. of Pupils 575	120,577.23	30,685.59	13,575.22	3,459.11	10,606.16	178,903.31	311.14
Total No. of Pupils 2163	$292,111.40	$118,021.50	$52,212.38	$13,304.28	$40,792.91	$516,442.47	$238.76

*These include salaries of teachers charged against Title VII; others are paid out of local funds.
**These expenses are pro-rated on the basis of the number of pupils in each program component.

CHAPTER 2. MEETING LOCAL SCHOOL NEEDS

The Let's Be Amigos program provided extensive management, supervision, and community-relations resources. A survey of principals was expected to show that these resources were being used by the program in a manner consistent with the local needs of each school, that supervision was satisfactory, and that specially-trained teaching personnel were providing necessary instruction.

To assure that the school and community needs were met, the program director had negotiated with each principal and provided instructional resources consistent with the perceived needs. Supervisory personnel of the program have been assigned to schools so that Models A and B had one full-time supervisor and ARRIBA had one full-time supervisor. English-second-language classes incorporated in ARRIBA, but funded through Title I, were supervised by an ESOL specialist. In addition there was a community-relations specialist who served all components by providing programs for schools, attending parents' meetings, and occasionally visiting schools in order to assist when additional supervision was needed. The supervisory personnel also conducted staff-development meetings and assured that teachers had appropriate instructional materials.

Previous Findings

Surveys of the principals of schools served by Let's Be Amigos programs were conducted in the first, second, third, and fifth operational years of the program.

The survey of principals indicated that the program was functioning well, but some respondents suggested areas where attention was needed. Supervision of teachers in the classroom was the area in which problems were reported most frequently. Other suggestions appearing in the principals' data were (a) the desirability of additional course offerings in commercial and applied subjects for non-college-bound high school students, (b) the desirability of increasing contact between ARRIBA program participants and the rest of the school population in those components serving a subgroup of students, and (c) the need for developing concrete selection criteria for returning pupils to the English language mainstream of their schools.

Evaluation Procedure

This survey was a replication of the data-gathering process used during the previous years, except that principals' ratings of teachers were omitted. Current union agreements forbid unofficial teacher ratings of the type made in the past.

The Principals' Questionnaire asked principals to give their overall impressions of the program and asked for specific information about pupil and parent reactions to it. The instrument provided opportunity for the responding principal to qualify or comment on the ratings he/she gave. A copy appeared in the Evaluation of the Second Year.

The questionnaire was mailed in May to principals in whose school a program component was operational. Telephone follow-ups assured that each principal mailed a questionnaire to the project evaluator. The cover letter assured that individual respondents would not be identified in any reports or to other project personnel (unless a specific request for service to their school was made). All principals whose schools were served by the project were surveyed. Their ratings were tabulated and percentages computed. Responses to open-ended questions were classified and tabulated.

Findings

Eleven of the 12 principals of schools with bilingual programs funded through Title VII responded to the questionnaire. No response was obtained from an elementary school served by Model B.

The first question of this instrument asked principals to indicate their overall level of satisfaction with the bilingual program components operating in their schools. The answers were generally favorable, with seven principals reporting that they were "very satisfied," two stating they were "somewhat satisfied," and two who felt they were "somewhat dissatisfied." No one was "very dissatisfied." The opinions expressed by the four ARRIBA principals who added comments were as follows:

- One of the four principals felt that the program in her school could be updated to meet the school's present needs.

- Another principal felt that the student body's nonattendence contributed to the problems facing the program.

- One expressed concern over the segregated nature of the program, as well as the manner in which teacher appointments were made.

- A favorable response was received by one principal who felt that the staff had done an admirable job within the existing program.

The second question asked principals about expanding the program in their schools. Three expressed a desire that the program be expanded to reach more students. Seven felt it best that the program remain the same size. One felt that

it should be reduced in size. No one indicated that the program should be eliminated from the school. Comments made were as follows:

.One of the high school principals felt that more courses in business education should be made available to the students in the program.

.One of the junior high school principals strongly recommended bilingual classroom aides to provide support for the non-Spanish-speaking teachers of minor subjects to which the students in the program were assigned.

.One principal suggested implementation of an ungraded accelerated class within the program.

Question three asked principals who wished to have the program expanded whether more teachers with the background and the training provided by the summer institute program would be valuable additions to their staff. Three principals answered the question, all in the affirmative. No written comments were made.

Question four asked principals to rate the supervision received by teachers at the schools. Two described it as "excellent," three as "good," four felt that it was only "fair," and one felt it was "poor." One of the principals did not answer. The comments were:

.One of the Model A principals felt that the creation of the bilingual support-teacher position has proved to be extremely effective for on-site supervision.

.Three ARRIBA principals recommended that the evaluators conduct follow-up observations at least once a month. It was felt that communication between the central office and school personnel involved in the program needs to be strengthened.

Question five asked principals to indicate whether there was increased understanding of the program goals for this year (as compared to last year) by parents, students, and faculty. Eight felt that there had been gains in parents' understanding of program goals two felt no gains had been made. Nine principals felt that students had gained understanding; one felt that they had not. Seven principals felt that faculty members had increased understanding of project goals; three felt that they did not. Principals who made comments agreed that there was much progress in parent, student, and faculty awareness, but that much still remained to be done.

Question six asked principals to note other factors about the program which they wished to bring to the program management's attention. The following is a list of their points as submitted by the three principals who answered the question:

.One principal felt that bilingual teachers should be more proficient in their second language.

.One felt there was a need for more adequate textbooks, and for those textbooks to be available in sufficient quantities.

.One principal felt that the conversational Spanish staff development program for teachers and administrators which began at his school should continue to be held as it has contributed to a better relationship among staff members.

Evaluators' Comments

The survey indicated continued satisfaction with the program by principals of schools served. The data gathered showed programs were generally functioning appropriately but with some problems at some schools. Principals expressed the need for: (a) greater supervision of the program and the personnel, (b) a greater variety of program materials, (c) sufficient numbers of copies of the materials already available, and (d) maintenance and expansion of second-language instruction for teaching staff.

CHAPTER 3. EVALUATION OF MICROOBJECTIVES FOR PRIMARY-GRADE FIRST AND SECOND-LANGUAGE PROGRAMS

Microobjectives for language arts in the prekindergarten, kindergarten, all-day kindergarten, first, second, and third grades were analyzed to provide curriculum planners with clear ideas of appropriate instructional levels. It was expected that this analysis would permit the project planners to differentiate the instructional levels of pupils, based on their language background, grade level, and experience in the program.

Since the inception of the Let's Be Amigos program, instruction in the elementary levels of the Model School components has been guided by logs consisting of microobjectives in various curricular areas. These microobjectives specified the types of oral performance pupils should be able to exhibit if they fulfilled the expectancies of the program planners.

The microobjectives formed the basis of oral performance in language arts, social studies, and science. Concepts were taught first in the mother tongue, then reviewed or retaught in the pupils' second language.

Previous Findings

Use of microobjectives during the first three years of the program (in prekindergarten to Grade 3) showed that the original conception--parallel lists of microobjectives for English- and Spanish-dominant pupils--was not viable. The two ethnic groups had very different rates of acquisition of the microobjectives, especially in their second language, with Spanish-dominants acquiring English competence more rapidly than English-dominants acquired Spanish competence. Second, there were inconsistencies among the microobjectives themselves--teachers believed that some specified for later grade levels should have been taught earlier in the program, and that others specified for early grade levels should be reserved for later. Third, it became apparent that newcomers to the program in levels above first grade should not be expected to receive the same instruction as pupils who had had several prior years of bilingual education. Fourth, it became clear that, at least for some grade levels, the microobjectives in some instructional areas were underestimates of the potential performance of pupils.

To begin to remedy these problems, the 1972-1973 evaluation undertook a revision of the microobjectives. Duplicate microobjectives were eliminated and groups of teachers with special competence in each major curricular area (language arts, number concepts, science concepts, and social studies concepts) were asked to order the microobjectives in the area of their expertise, from those which were to be mastered first to those which should be mastered last. They were able to do this task with a high level of interrater agreement. The reordered microobjectives were the instructional base for 1973-1974.

In 1973-1974, pupils were tested on revised language arts microobjective lists. Stepwise regression analyses, one for first language and one for second language, were performed on the results of this testing. Program (Model A or B), number of years in the program, grade level, and mother tongue were the predictor variables. These analyses showed that pupils' knowledge of microobjectives presented in their first language depended upon grade, and to a lesser extent, mother tongue. In second language, pupils' mastery depended upon mother tongue, grade, and length of experience in the program. English-dominant pupils' second-language scores were low at all grade levels, but very low for new pupils. In contrast, Spanish-dominant pupils' English performance was high in all grade levels. In the highest grades tested, some pupil groups "topped-out," suggesting that the curriculum lacked content which challanged these groups.

In response to these findings, program management undertook the following steps:

1. More difficult microobjectives were added.

2. Different second language outcome criteria were specified for the two language dominance groups. Reinforcement of English in the community and instructional time allocations was expected to result in the Spanish-dominant pupils' mastering their second language more rapidly than English-dominants master Spanish.

These differences were incorporated in objectives of elementary grades in the 1975-1976 proposal. These objectives described year-end (May to June) performance levels. It was not possible to evaluate the objectives directly because it was necessary to move year-end test dates to January and February. The "Evaluators' Comments" section will discuss the results obtained in this January-February testing period in the light of year-end objectives.

Evaluation Procedure

Two Microobjective Tests (A and B) were prepared from the scope and sequence chart appearing on pages 55-57 of the 1974-1975 proposal. Every fifth item on the chart was selected. Test A began with the first microobjective; Test B began with the second microobjective of the chart. Pupils were administered one test in their mother tongue, the other test in their second language. In half the cases, Test A was used for first language testing and Test B was used for the first language testing of the remainder. Mean scores obtained with Test A and B in a language by pupils in the same grade and mother tongue group were virtually the same. The results of the study are therefore based on combined data for the two test forms.

Samples of five pupils dominant in English and five pupils dominant in Spanish were drawn at random from each classroom. These pupils had to be present at the time of the testing (there were no make-ups), and were in prekindergarten to Grade 3.

The testing was conducted by a bilingual member of the project evaluation staff. Each pupil was first examined in his mother tongue than in his second language. Pupils were examined individually, during January and February.

The pupil sample was divided into groups based on grade, mother tongue, component, and experience in the program -- less than one year (new pupils) or one or more years (experienced pupils). A mean score was computed for each group describing pupils' first language and second language scores. Discrepancies between new and experienced pupils were computed and, where appropriate, sign tests were used to determine the probability that the differences were due to chance.

Findings

Model A

Figure 3.1 shows the results of microobjective testing in Model A for pupils in the "typical" instructional sequence -- pupils in prekindergarten and kindergarten who attended school for the first time, pupils in the all-day kindergarten, and pupils in first, second, and third grades who attended school in the Model A program for at least one year prior to 1974-1975. The results, shown on the graph, are very systematic even though the number of cases represented by any one point on the graph is small.

Competence in first and second language microobjectives increased consistently as grade level increased, both for English- and Spanish-dominant pupils. In all grades, English-dominant pupils' mother-tongue scores were highest. These were followed by Spanish-dominant pupils' mother-tongue scores, Spanish-dominant pupils' second language scores, and the English-dominant pupils' second language scores. The difference between English-dominant pupils' scores in their first and second languages was large at all grade levels. The difference between Spanish-dominant pupils' performance in the two languages was small -- at one grade level the difference was less than one item.

Table 3.1 shows test results of pupils enrolled in all-day kindergarten, first grade, and second grade of the program with no previous experience in Model A. The number of tested who fell into this category was small (12 pupils). The table shows the mean score earned by these pupils, and discrepancies between

their mean score and the mean of pupils who had experience in the program in previous years. These discrepancies show a clear pattern. Discrepancies between the two groups' scores in first language varied in sign and were small (average= -.3). In contrast, discrepancies obtained in second language results were larger, and all negative (average= -5.3). This suggested that new pupils performed lower in second language than pupils who had been in the program for one or more years.

Model B

Model B served only Spanish-dominant pupils. Figure 3.2 shows the performance of pupils who have been in this program the expected amount of time -- new pupils in kindergarten and first grade, and experienced pupils in second and third grades. As the figure shows, pupil competence in the mother tongue and the second language was very similar in kindergarten, Grade 1 and Grade 2; scores rose from one level to the next. In third grade the pattern changed. In the mother tongue, third-grade scores were higher than second-grade scores. In second language they were lower.

Table 3.2 shows the scores of Model B pupils who were newly enrolled, and the discrepancies between them and the more experienced pupils. The results were the same as in Model A -- small differences, apparently random in direction for first language, and larger differences in the negative direction in second language.

Discrepancy Patterns

To see if the discrepancy pattern between new and experienced pupil groups was worthy of further study, the probability of finding the obtained numbers of positive and negative mean discrepancies was computed. There were seven discrepancies for each language (five of Model A, two of Model B data). In the first language, three discrepancies were positive, four were negative. This is the expected outcome if they result from random variation. In the second language, all seven discrepancies were negative. This would occur by accident only eight times in a thousand. This means that, dispite the low number of new pupils, there was strong evidence that Model A and B enhance English- and Spanish-dominant pupils' second-language competence more than did any instruction they might have received prior to enrolling

Evaluators' Comment

Comparison of midyear pupil performance with year-end objectives stated in the proposal showed that program planners are still underestimating the potential achievement of all pupils in their first language, and Spanish-dominant pupils in their second language. With the exception of English-dominant pupils in their second language, in every grade tested in Model A and in most of Model B, pupils clearly exceeded program planners' expectations.

Comparisons of new pupils with those with one or more years experience in a model school program suggested that pupils' performances on microobjectives in their first languages were not enhanced by extended experience in the Model Schools. In contrast, second language data indicated that the model school program pupils were learning more of the second language than they would be able to acquire outside of the project.

Table 3.1. Mean scores of pupils in their first year of participation in Model A, and discrepancies from the mean scores of pupils with previous experience in the program.

Language and Grade	English-Dom. Pupils			Spanish-Domn. Pupils		
Mother Tongue	N	Score	Discr.	N	Score	Discr.
All-Day Kindergarten	2	27.0	+1.3	0	------	-----
First Grade	2	28.5	-0.1	4	26.8	-0.3
Second Grade	1	30.0	+0.6	3	26.3	-3.0
Second Language						
All-Day Kindergarten	2	8	-1.3	0	----	----
First Grade	2	4.5	-4.2	4	18.8	-6.0
Second Grade	1	4.0	-8.0	3	20.3	-7.2

Table 3.2. Mean scores of pupils in their first year of participation in Model B, and discrepancies from the mean scores of pupils with previous experience in the program.

Language and Grade	Spanish-Dominant Pupils*		
Mother Tongue	N	Score	Discrepancy
Second Grade	2	24.5	-1.5
Third Grade	1	31.1	+0.6
Second Language			
Second Grade	2	20.5	-5.7
Third Grade	1	29.0	-4.4

*Model B does not include English-dominant pupils.

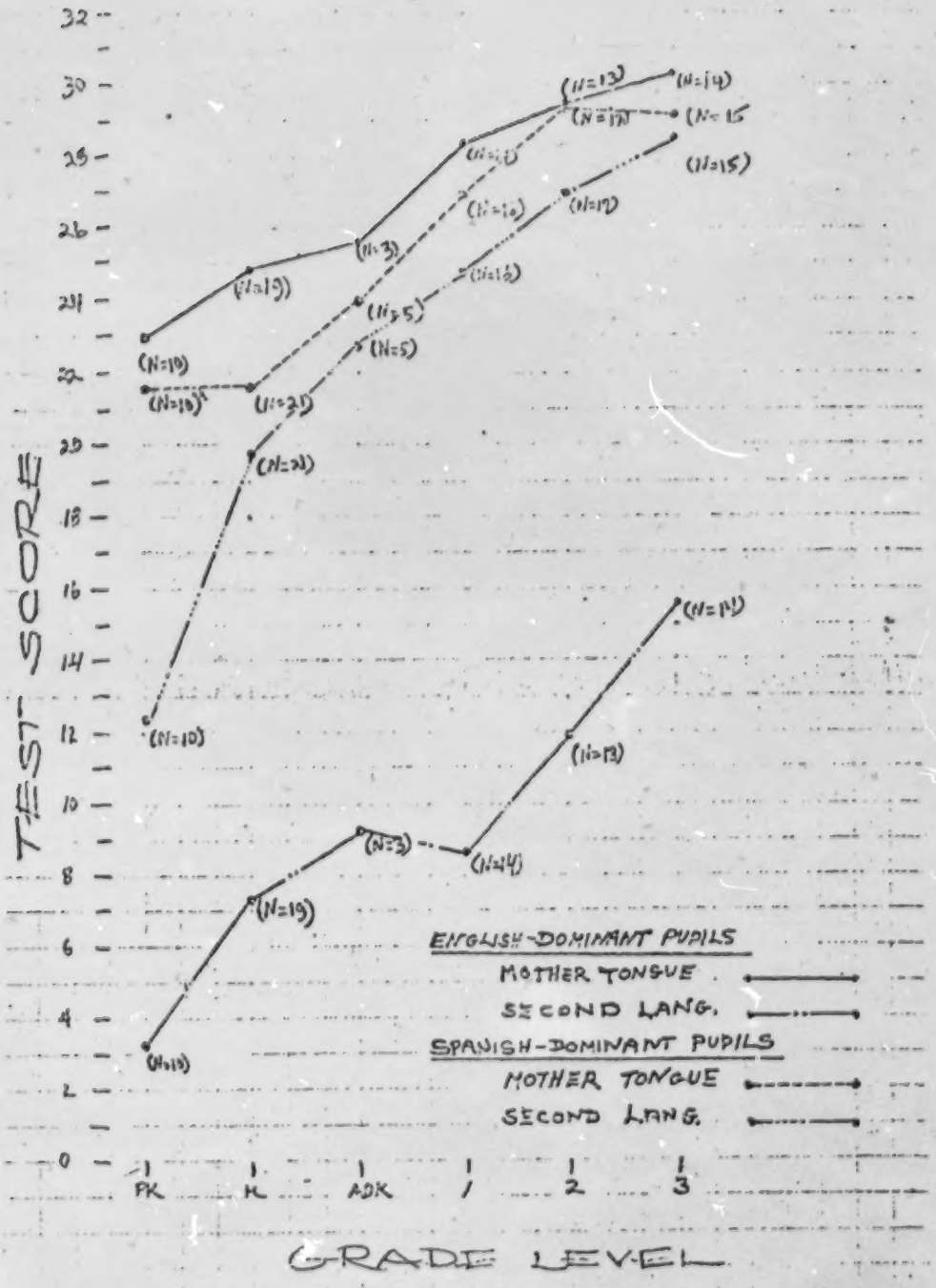

Figure 3.1. Microobjective test performance of "typical" pupils of Model A -- Prekindergarten and kindergarten pupils' participation in the program for the first time; all-day kindergarten, first-grade, second-grade, and third-grade pupils enrolled for two or more years.

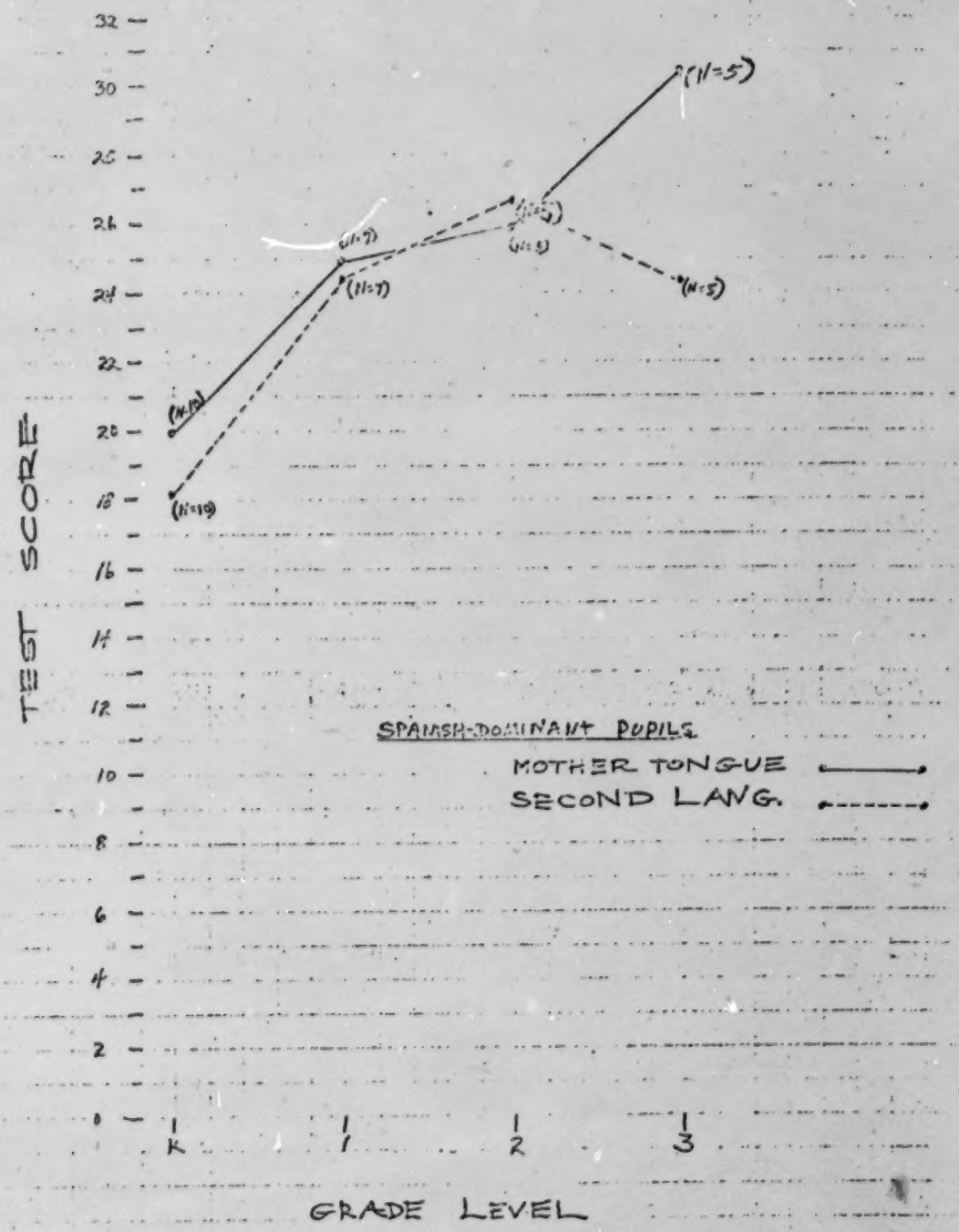

Figure 3.2. Microobjective test performance of "typical" pupils of Model B -- Kindergarten and first-grade pupils participating in the program for the first time; second- and third-grade pupils who participated in the program in previous years.

CHAPTER 4. READINESS OF KINDERGARTEN AND PREKINDERGARTEN PUPILS

The prekindergarten of Model A and kindergartens of Models A and B were designed to enhance pupils' readiness for first grade. The outcome expected if the program succeeded was that the scores of kindergarten pupils on the Boehm Test of Basic Concepts would be higher than the estimates of scores for pupils citywide and at the Potter-Thomas School before bilingual education was initiated. In addition the prekindergarten testing provided descriptive data regarding prekindergarten pupils in order that a good selection be made for the next year's all-day kindergarten.

The Model A component at the Potter-Thomas School provided bilingual instruction at the prekindergarten and kindergarten levels. All classes were taught by teams consisting of bilingual teachers--one English-dominant, one Spanish-dominant. During 90% of the instructional time in prekindergarten and kindergarten, this instruction was in the pupils' mother tongue. Teachers were provided with microobjective lists, but were not obligated to follow specific instructional procedures. Teachers and supervisors worked out instructional activities which they felt would lead to mastery of concepts which appeared in the lists. The prekindergarten and regular kindergartens met for one-half day. At Miller School, a half-day kindergarten program was initiated in 1974-1975 for Spanish-dominant pupils. The instructional content paralleled the Model A kindergarten program.

In addition to these activities, reading in the pupils' mother tongue was introduced in an all-day kindergarten, a program designed for the most able of the previous year's prekindergarten pupils. This all-day kindergarten class met for the full school day.

Previous Findings

During the first years of the Let's Be Amigos program, kindergarten pupils were examined with the Philadelphia Readiness Test (PRT), a locally-developed instrument which had been used extensively in the schools to measure number and reading readiness. For use in the Let's Be Amigos program, special Spanish instructions were developed. It was found that in three of the project's first four years, pupils of both language groups exceeded citywide and earlier Potter-Thomas performance, and in one year results were close to or above citywide performance although below the performance of the local Potter-Thomas baseline. These baselines were derived from the 1968 testing, the last citywide administration of the test.

The prekindergarten pupils have also been tested in the past. The instrument consisted of a selection of items from the Philadelphia Readiness Test and some new material derived from prekindergarten objectives. Spanish and English instructions were prepared for this test. This test was used to rank pupils in terms of their achievement in prekindergarten, so those with the most skill could enter the enriched all-day kindergarten program. Beginning in 1972-1973, the first half of the Boehm test was substituted for this instrument. Teachers and supervisors felt that the Boehm provided better data for this purpose than did the original project-developed test.

One problem with the Philadelphia Readiness Test was that it lacked sufficient range--the typical performance was close to the highest score possible on the tests. This was especially a problem in kindergarten where it prevented assessment of any improvement in skills arising from the all-day kindergarten. To remedy this, in Spring 1973, use of the Boehm Test of Basic Concepts in the pupils' mother tongues was initiated. Pupils in the Model A kindergarten were tested with this test as well as the Philadelphia Readiness Test in 1973 and in 1974. Results showed that English-dominant pupils scored at the 65th and 70th percentiles--higher than other low-socioeconomic-status children. Spanish-dominant children scored at the same level as other children of this social class--about the 50th percentile.

Study of the all-day kindergarten group in 1974-1975 showed that it was clearly superior to those children who had only half-day regular instruction. An analysis using prekindergarten performance as a covariate suggested that some of this superiority was due to the effects of the extended instructional day.

The availability of both the Boehm and the Philadelphia Readiness Test scores permitted comparison and restatement of the original objectives in terms of the new instrument. A correlation of .40 ($df=153$, $p<.01$) showed a moderate relationship between the two instruments--about as good a relationship as could be expected because of the "topping out" of pupils on the PRT. Preparation of equipercentile curves has permitted the development of a graph of equivalent scores. This permitted objectives stated in PRT test scores to be evaluated through use of the Boehm test.

Evaluation Procedure

The 1974-1975 evaluation used the equipercentile curves made the previous year in order to determine whether the program has produced any achievement gains above estimated preprogram performance levels. The first half of the Boehm test was also administered to the prekindergarten in order to provide data which could supplement teachers' judgements in determining which pupils in the prekindergarten were most ready for an all-day kindergarten experience the next year.

The English and Spanish versions of the Boehm Test of Basic Concepts were administered in accordance with the test maker's instructions. The version administered was the one in the pupils' dominant language. Kindergarten students took both parts of the test. Prekindergarten pupils took Part I only. The tests were given in small groups of three or four pupils by a member of the program evaluation team in the mother tongue of the pupils. The tests were given over a period of about six weeks in late April, May, and the first days of June. The kindergarten group was usually given the two parts of the test on separate occasions, a day apart. However, if the pupils in the group were alert and told the tester they were willing, the second part was administered a few minutes after the first part had been completed.

All pupils on roll in the Model A prekindergarten and Model A and B kindergartens were tested except those who had been absent so frequently during the period that the tester could not carry out the complete examination. Of the 87 pupils on roll in the prekindergarten during the year, 59 were tested. Of the 214 pupils on roll in the kindergarten 159 were tested.

Boehm test scores were transformed on a pupil-by-pupil basis into PRT scores using the equipercentile curve of relating the two instruments. The mean of the Boehm-derived PRT-equivalent scores was then obtained and compared with the preprogram comparison data.

In the previous year, an analysis of the effectiveness of the Model A all-day kindergarten was made. This analysis was not undertaken in 1974-1975, because virtually all tested pupils who had had prekindergarten were enrolled in the all-day kindergarten (there were only seven exceptions). This prevented separation of the effect of prekindergarten experience from that of the all day kindergarten.

Findings

Kindergarten - Results of the testing of kindergarten pupils on the Boehm are shown in Table 4.1. In Model A, all pupil groups performed better than other low-socioeconomic status pupils. The average English-dominant pupil's score was at the 82nd percentile; the average Spanish-dominant pupil's score at the 66th. The all-day kindergarten subgroups' average pupil's score was at the 90th percentile in both language groups. In the regular, half-day kindergartens, English-dominant pupils scored substantially higher than the norm group (79th percentile); the Spanish-dominant group scored slightly above the norm (58th percentile).

The Model B kindergarten at the Miller School was first organized in 1974-1975. The 19 pupils tested were all Spanish-dominant. Their performance was slightly below the the test maker's low-socioeconomic-status norms.

The preprogram (1968) comparison groups scored 20.1 (entire city) and 20.9 (Potter-Thomas) on the PRT. As can be seen on the last line of Table 4.1,

when each pupil's Boehm score was converted into a PRT equivalent, the means obtained were above those of the preprogram groups, suggesting that pupil competence has been enhanced by the bilingual program.

Prekindergarten - Table 4.2 shows prekindergarten pupils' Boehm Part I mean scores The means of English- and Spanish-dominant pupils were the same (about 14 items 14 items out of 25 correct). These scores were slightly lower than those obtained in 1973-1974.

Evaluators' Comments

These findings confirm the conclusion drawn in virtually every year's assessment of the Model School Programs: Kindergarten pupils have exceeded scores found in preprogram comparison groups. It is also clear that kindergarten pupils performed at or above levels of other pupils of similar socioeconomic status. In fact, in Model A English-dominant pupils were above, and the Spanish-dominant pupils only slightly below, the middle-socioeconomic-status level norming-group scores.

Table 4.1. Results of Testing Kindergarten Pupils on the Boehm Test of Basic Concepts in their Mother Tongues

Item	Model A						Model B
	English-Dominan			Spanish-Dominan			Spanish-Dominan
	K	ADK	Tot.	K	ADK	Tot.	K
Number of Pupils	53	19	72	66	17	83	19
Mean Score	34.7	37.3	35.4	29.5	37.5	31.1	26.3
Percentile Rank of Mean (Low-SES Midyear Norms)	79	90	82	58	90	66	42
Mean PRT-Equivalent Score	---	----	25.6	---	----	23.7	21.7

Table 4.2. Model A Prekindergarten Pupil Performance on Boehm Test, Part 1.

Item	English-Dominant	Spanish-Dominant
Number Tested	25	33
Mean Score	13.9	13.7
Standard Deviation	4.2	3.5
Percentage of Items Correct	56%	55%

CHAPTER 5. READING AND LANGUAGE PERFORMANCE IN THE ELEMENTARY PROGRAMS: STUDENTS' PERFORMANCE IN THEIR MOTHER TONGUES

A major goal of the Let's Be Amigos program is to enhance the mother tongue reading and language arts performance of participants. In 1974-1975, this enhancement was defined for Spanish-dominant pupils in second through sixth grades in Model A and Model B as a statistically significant difference between 1968 pre-program comparison data and current performance.

Evaluation of first-grade Model School pupils, English-dominant Model A pupils in second through sixth grade and ARRIBA pupils was descriptive because appropriate comparison data did not exist. Pupils were not tested in first grade in the years prior to implementation of Let's Be Amigos. Because of changes in the citywide testing program, English-dominant pupils no longer took the same tests, and were not tested at the same time of year. The ARRIBA program was supposed to serve primarily a new, in-migrant pupil group, whereas the comparison data included Spanish-dominant pupils who have lived all their lives in Philadelphia.

Each of the three educational components of Let's Be Amigos has its own instructional pattern. In Model A, both English- and Spanish-dominant children use materials designed for use with pupils learning to read their mother tongue. During the first three years of the program, English-dominant students used the Bank Street reading program to learn to read their mother tongue. During the fourth year, Lippincott readers were used with the fourth-grade students. During the fifth and sixth years, use of Lippincott materials with English-dominant children at all levels had increased--the Bank Street materials now served a more supplementary role. Spanish-dominant students used the Laidlaw reading series at all grade levels. Some classes also used materials prepared by the Spanish Curriculum Development Center as supplements.

The instruction of reading and language in the pupils' mother tongue was provided by teams consisting of teachers who were native speakers of the two languages. The first-language instruction was provided by the teacher on the team who was the native speaker of that language. When a pupil's instructional level was very different from that of the majority of his classmates, he was often sent to a teacher working with a group at the appropriate level, even though this teacher might not be a part of the team serving the rest of his class.

The Model B program served only Spanish-dominant children. At Ludlow School, these children were in Grades 1-5. In Miller School, there was a first-grade program class operating. In all classes of grades 1-3 the instructional content of Model B paralleled that of Spanish-dominant students of Model A.

In the fourth- and fifth-grade classes at Ludlow the instructional pattern was different. Students who had come through the lower grades of Model B were in a class with English-dominant children. The Spanish-dominant group within this class had Spanish-first-language instruction for 90 minutes daily. The remainder of the instructional day was conducted in English. Pupils who did not have the English competence for this program were enrolled in Ludlow ARRIBA classes.

The ARRIBA component was designed to serve new in-migrants from Spanish-speaking areas in grade levels above the fourth. Instruction in mathematics, social studies, science, and Spanish as a first language was provided in the Spanish language. English as a second language was also provided. Because of the diverse backgrounds of the in-migrant group, instruction was geared to the skill levels of the pupils as they came to the program. As far as possible the instruction in subject areas, except language arts, paralleled the content of regular English instruction of the grade level. In both instruction in languages and other areas, a combination of program-developed and commercial materials was used. In Spanish reading instruction, Laidlaw texts were the basis of the instruction.

Previous Findings

Evaluation of first-language performance in previous years has shown that Spanish-dominant pupils' performance has been superior to that of the preprogram comparison group in all grade levels in which program objectives specified that comparisons be made. Pupils in lower grade levels (1-3) frequently equalled or out-performed pupils in the rural zone of Puerto Rico. In higher grade levels, the Spanish-dominant group scored lower than Puerto Rican norm groups.

In previous years, English-dominant pupils were tested according to procedures which preprogram comparison data existed. Results showed that the performance was about the same as that of preprogram comparison groups except in 1973-1974. In that year, on all tests and in all grades, performance was above that of preprogram groups at a statistically significant level.

Evaluation Procedure

The assessment of standardized test performance of Spanish-dominant children in Grades 2-5 was a replication of the methodology used in previous years. Students were tested on instruments normed in Puerto Rico, and used in a 1968 citywide evaluation of Spanish-dominant students. In addition to this replication, the testing program was cycled upward, to the sixth grade, paralleling the upward cycling of the Model A component. As was the case with Grades 2-5, performance was compared with preprogram results and norms. In addition, Spanish-dominant first-grade Model School children and first- to sixth-grade ARIBBA pupils were

tested. As there was no preprogram baseline for these groups, their performances were compared only to the test-publisher's norms.

Testing of Spanish-dominant pupils occurred in May 1975. All tests were administered by teachers who were working with the supervision and assistance of a member of the project evaluation staff. Pupils in Grades 1-3 were tested with Test de destrezas basicas en lectura. Pupils in Grades 4-6 were tested with the Puerto Rican Prueba de lectura.

All Spanish-dominant pupils present on testing dates were examined. Table 5.1 shows the number of pupils on roll according to the program's pupil directory, and the number of pupils tested.

Scores of Model A and B pupils were compared with scores obtained by the 1968 comparison group using an analysis of variance. Descriptive statistics were computed for the ARRIBA component.

English-dominant pupil testing in Model A was conducted by the School District as part of a citywide testing program. Administration of a different test (California Achievement Tests), and change of the test date made comparison with preprogram baselines inappropriate.

Results

Spanish-Dominant Pupils

Table 5.2 shows the results of testing Model A and B Spanish-dominant pupils in the first grade with Test de destrezas basicas en lectura. As can be seen in the table, the performance of these pupils is very high, averaging at or above the 90th percentile of rural Puerto Rican norms.

As shown in Table 5.3, second- and third-grade Model A and B pupils' performance on Test de destrezas basicas was higher, at a statistically significant level, than the preprogram comparison group performance, and was far better than the norm-group of the rural zone of Puerto Rico.

Table 5.4 shows performance of Model A and Grade 1-6 pupils on the Puerto Rican Prueba de lectura. Results obtained differed markedly from those of younger project pupils. Analysis of variance showed that pupils in Grades 4-6 of Model A did not do better, at a statistically significant level, than the preprogram comparison group. There was, however, a trend for pupils to score at a somewhat higher, but not statistically significant, level with grade means ranging from one to eight percentile points above those of the comparison group.

In contrast, there was a statistically significant difference between the preprogram group and pupils in Model B during 1974-1975. A significant interaction in the Model B analysis of variance indicated that most of the difference was due to performance of pupils in the fourth grade of that component. Pupils at this grade level were performing at the 26th percentile. In contrast, fifth-grade Model B pupils were performing at the 8th percentile.

Table 5.5 shows mother-tongue performance of ARRIBA pupils in Grades 4-6. In this component, pupils were performing in the range of 5th to 7th percentiles of rural Puerto Rican norms of pupils of their grade level.

English-Dominant Pupils

Table 5.6 shows the performance of Model School pupils on the California Achievement Tests administered as part of the citywide testing program. Results parallel those found for Spanish-dominant pupils in Model A. Pupils in the lower grade levels were performing at or about national norms. Pupils in fifth and sixth grades scored well below these norms (averaging about the 17th percentile in the fifth grade, the 30th percentile in the sixth grade). Examination of surnames of pupils tested showed that about half of the English-dominant pupils in these two highest Model A grades had Spanish surnames. Table 5.7 shows the performances of English- and Spanish-surnamed pupils separately. As can be seen in the table, there were no systematic differences between pupils of the two ethnic backgrounds.

Evaluators' Comments

Results obtained from the 1974-1975 testing paralleled those obtained in previous years. There were trends for young pupils to perform better than or equal to the test maker's norm populations, and for pupils in higher grades to perform below the norming populations.

Despite these trends, in Model B Spanish-dominant pupil performance was above that of the preproject comparison group across all grade levels. For the first time, Model A pupil performance in Spanish was not above preprogram levels in all grades. Pupils in first through third grades were clearly superior to the comparison group, but Model A pupils in Grades 4-6 did not differ from the comparison group.

In 1974-1975 mother-tongue-instruction contact time of fourth-, fifth-, and sixth-grade Spanish-dominant Model A pupils was reduced in order to increase their contact time with English. The fifth and sixth grades were at a school site in which there was construction. The test results this year suggest that the price of these changes was the disappearance of these pupils' superiority over the preprogram comparison group in Model A. It remains to be seen if this change was a temporary result of the transition.

Table 5.1. Number of Students on Roll and Tested, by Grade Level

Group	On Roll During School Year	Completed All Sub Tests
Spanish-Dominant Students		
Model A		
Grade 1	109	75
2	116	95
3	96	74
4	95*	83
5	67	52
6	30*	28
Model B		
Grade 1	66	49
2	45	25
3	32	24
4	21	16
5	23	23
ARRIBA		
Grade 3		
4	20	13
5	37	21
6	28	19

*Estimate - Two teachers reported language dominance incorrectly on pupil information forms.

Table 5.2. Performance of Spanish-Dominant Children in the First-Grade Test de destrezas basicas

Item	Model A (Potter-Thomas) N=75	Model B (Ludlow and Miller) N=49
Test Mean (Total)	74	62
Percentile Rank of Mean*	95	90
Standard Deviation	20.7	15.3

*End-of-year, rural zone of Puerto Rico

Table 5.3. Comparison of Spanish-Dominant Pupils in the Second and Third Grade with Pre-Program Baseline Groups - Test de destrezas basicas en lectura

Item	Pre-program Comparison Group	Model A	Model B
Grade 2			
Mean	57.5	96.2	86.1
Percentile Rank of Mean*	35	82	70
Standard Deviation	20.5	16.0	16.0
Number of Cases	266	95	25
Grade 3			
Mean	69.9	101.7	101.9
Percentile Rank of Mean	27	76	77
Standard Deviation	57.9	16.8	14.1
Number of Cases	332	74	24

Analysis of Variance

Source	Mean Square	df	F	p<
Grade	14108.5	1	8.9	.001
Program*	93816.6	2	59.5	.001
Interaction	901.7	1	0.5	NS
Error	1577.5	810		

*Newman Khuls tests show that in each grade, each Model's pupils scored significantly higher ($p<.05$) than the pre-program group. There was no significant difference between performance in Model A and in Model B.

Table 5.4. Comparison of Model A and Model B Spanish-Dominant Pupils with Pre-Program Comparison Group on the Puerto Rican Reading Test, Prueba de lectura.

Item	Pre-program Comparison Group *	Model A	Model B
Grade 4			
Mean	17.6	18.3	26.4
Percentile Rank of Mean**	6	7	26
Standard Deviation	8.8	7.6	12.4
Number of Pupils	181	83	16
Grade 5			
Mean	21.1	22.5	23.1
Percentile Rank of Mean**	6	8	8
Standard Deviation	10.3	7.8	8.4
Number of Pupils	192	52	23
Grade 6			
Mean	22.9	27.0	----
Percentile Rank of Mean**	3	11	----
Standard Deviation	15.1	8.8	----
Number of Pupils	177	28	----

Analysis of Variance: Model A vs. Pre-program Comparison Group

Source	Mean Square	df	F	p<
Program	27.2	1	.3	NS
Grade	2041.6	2	17.0	.001
Interaction	106.7	2	.9	NS
Error	106.7	707	----	----

Analysis of Variance: Model B vs. Pre-program Comparison Group

Source	Mean Square	df	F	p<
Program	880.4	1	9.4	.01
Grade	848.4	1	9.0	.01
Interaction	394.0	1	4.2	.04
Error	93.9	408	---	---

*Comparison-group data are from the 1968 city-wide testing. Because these data were "grouped" in five-point intervals, similar grouping was done prior to analysis of the Model A and Model B test results.

**Norms are for rural Puerto Rico, end-of-the-year.

Table 5.5. ARRIBA Pupil Performance on the Puerto Rican Prueba de lectura.

Grade	Number of Pupils	Mean	Percentile Rank* of Mean	Standard Deviation
4	13	16.9	5	7.0
5	21	22.0	7	9.6
6	19	27.8	7	12.5

*Rural zone of Puerto Rico, End-of-the-year

Table 5.6. Performance of English-Dominant Pupils of Model A on the California Achievement Tests

	Reading		Language		Spelling	
Grade	N	Percentile Rank of Mean	N	Percentile Rank of Mean	N	Percentile Rank of Mean
1	90	51	94	49	96	51
2	109	40	104	39	108	41
3	101	21	98	27	100	32
4	122	19	121	28	122	19
5	25	16	24	25	25	10
6	29	29	28	37	28	24

Table 5.7. Performance on California Achievement Tests by English- and Spanish-surnamed English-Dominant Pupils in the 5th- and 6th-grades of Model A.

	Reading		Language		Spelling	
	N	Percentile Rank of Mean	N	Percentile Rank of Mean	N	Percentile Rank of Mean
Spanish-Surnamed						
Grade 5	13	15	12	28	13	6
Grade 6	15	33	15	39	15	17
English Surnamed						
Grade 5	12	18	12	22	12	20
Grade 6	14	26	13	35	13	27

CHAPTER 6. SECOND-LANGUAGE READING PERFORMANCE OF ELEMENTARY STUDENTS

The Let's Be Amigos program goal was to give all its participants basic reading skills in both the mother tongue and the second language. Program staff have recognized that development of reading competence in the second language is dependent upon oral mastery of the students' second language, and is facilitated by reading skill in the students' mother tongue. As a result of this viewpoint, the following program outcomes have been specified:

.Spanish-dominant pupils in the Model School third grade should be performing in English at a level similar to that of English-dominant children at the end of the first grade (i.e., have a grade-equivalent score of approximately 1.8 in May of the third grade).

.Beginning in the fourth grade, Model School Spanish-dominant pupils' growth should be at one year of grade-equivalent score for each grade level. Therefore, fourth-grade pupils should average 3.8, fifth-grade pupils should average 4.8, and sixth-grade pupils should average 5.8.

.English-dominant students in the fourth and fifth grades should be reading well enough in Spanish to be tested. However, program staff have not specified the minimum levels of performance which would be acceptable.

.In the ARRIBA components, students being served are recent in-migrants, most of whom did not have continuous educations in the Philadelphia schools. Because of the great heterogeneity of this Spanish-dominant group, no clear-cut test outcomes have been specified.

In the Model A component, the teaching-team member who is the native speaker of the target language provides second-language reading instruction to the children. In the lowest grade levels the instruction occupied only a short time (10% of the day in PK and K, 15% in first grade, 20% in second). By third grade the entire afternoon session was devoted to learning in the second language. A substantial portion of the instruction was devoted to learning to read the second language, beginning in the third grade (Spanish-dominant pupils) or fourth grade (English-dominant pupils). The Lippincott and Bank Street readers have been used for teaching the reading of English to the Spanish-dominant group. The Laidlaw materials have been used to teach the reading of Spanish to the English-dominant group. Beginning in 1974-1975, the program was modified in the fourth through sixth grades. About two thirds of the instructional day of both English- and Spanish-dominant pupils was devoted to English instruction.

In order to accommodate new students, special small-group second-language instruction was provided for about one hour per day beginning with the second grade. This second-language instruction was predominantly oral-aural. After about one year of this oral-aural instruction, pupils were placed into regular classes at their instructional level.

As the early phases of second-language instruction did not involve reading, only the Model A students who had been in the program for more than a year, had completed the small-group program, and were in regular second-language classes were given the reading tests.

The Model B component served only Spanish-dominant children. The instructional pattern for second language was parallel to that provided for Spanish-speaking pupils of Model A. The one clear-cut difference was the lack of separate English-second-language classes for new students entering the program above the first grade. In Model B, these newcomers entered the regular classes of the program. The teachers tried to differentiate their instruction within the class to provide the oral-aural training necessary before students began to read English. As there was no clear transition point, the teachers were asked to give the English reading tests to all pupils who had any English reading instruction.

In Ludlow School, the fourth- and fifth-grade Model B did not fit the typical pattern of the Model School group. The pupils were in four classes with many English-dominant pupils. With the exception of one hour of Spanish daily, their instruction was all in English.

The ARRIBA component was designed primarily to serve newcomers to the mainland. As a result, the English instruction was heavily oriented toward helping students gain oral-aural competence. However, teachers reported that they began teaching reading in English, especially in the middle and upper grades. The reading instruction in the ARRIBA component was based on the linear material appearing in the ESOL work, supplemented by use of reading texts being used with English-dominants in the schools served. As was the case with Model B, all students who had any reading instruction in English were included in the group tested.

Previous Findings

In the third- fourth- and fifth-year evaluations, the program had cycled upward through the grades so that it was possible to conduct standardized reading and linear skills testing in the second languages. The results of these years showed that Model School Spanish-dominant pupils' performance in English in the third grade was at anticipated levels, but growth of third to fifth grade was less than the anticipated one year grade-equivalent per year. Performance of English-dominant pupils in the Model A program in Spanish was exceptionally

good (above the norm of third-grade native Spanish-speakers), a result which may have arisen from complex relationships between test content and pupil maturity. This result implies that English speakers tested must have had substantial reading knowledge of Spanish.

In the ARRIBA component, previous testing suggested that pupil competence in reading English was similar to that of native English speakers at the end of first grade regardless of whether the pupils were third, fourth, or fifth graders.

Evaluation Procedure

The sixth-year evaluation of second-language reading and related competencies was a partial replication of the study conducted in the fifth-year evaluation. The Spanish-dominant students in Grades 3-6 were tested with instruments designed for assessing the competence of native speakers two or three years younger than the target group. The English-dominant students in Grades 4-6 were examined with an instrument designed for measuring the competence of native Spanish-speaking pupils two to four years younger. The new elements in the evaluation were the result of the upward cycling of the Model A program to the sixth grade.

Spanish-dominant children were examined with four subtests of the Stanford Achievement Test--Primary Battery II (Word Meaning, Paragraph Meaning, Spelling, Word Study Skills). This instrument is designed for native English speakers in Grades 1-3. It had been used to test second-grade native English speakers in the Let's Be Amigos project in the second through fifth funding years.

Spanish-dominant children were tested with Test de destrezas basicas en lectura, an instrument designed for elementary (first through third grades) native Spanish-speaking students. The test has three subtests (Word and Letter Recognition, Word Meaning, Comprehension), and has been used regularly for first-language assessment of younger Spanish-dominants in the program. The test's Word and Letter Recognition subsection includes activities which do not require a knowledge of Spanish language to complete. Scores on this subsection were therefore overestimates of Spanish competence of English-dominant children. Other subtests were appropriate for evaluation of the second-language objective.

In Model A, all English-dominant students in the fourth, fifth, and sixth grades who had been enrolled in the program long enough to be in regular second-language Spanish instruction, and all Spanish-dominant students in the third, fourth, fifth, and sixth grades who were in regular English-second-language instruction were in the pool of students to be tested. All those actually present on the days of the test administration were examined. The reader should note that among the English-dominant group, there were some children of Hispanic origin, who had greater exposure to the Spanish language than other English-dominant pupils.

In Model B, all Spanish-dominant students of Grades 3-5 who were present on the testing days and had any experience in reading English were examined.

In ARRIBA, all Spanish-dominant students who had any experience in reading English in Grades 3-5 and were present on the days when the instruments were administered received a test.

All second-language tests were administered after completion of the first-language testing (last week in May or first week of June). In administering these tests, the publishers' instructions were followed explicitly, except that instructions were read two times: first they were read in the target language of the test, then they were repeated in the mother tongue of the pupils. The testing was monitored extensively, with evaluation team members observing in the classrooms throughout the testing period.

As there were no preprogram comparison group data, descriptive statistics were computed. In 1974-1975 two new analyses were made. It was noted that there has been a high rate of turnover in the Spanish-dominant pupil group--many pupils came and left program schools each year. A longitudinal analysis was performed to see if this high turnover rate could explain the lack of increase of Spanish-dominant pupils' average English score with grade level, as observed in previous years. This analysis explored the rate of growth of pupils who had been served by Model A continuously since they were enrolled in the third grade. Growth of pupils should be clear in this longitudinal analysis.

Examination of the program roll showed that there was a large number of pupils in the English-dominant instructional sequence who were Spanish-surnamed. Separate analyses of English- and Spanish-surnamed English-dominant pupils were made in 1974-1975, in order to determine whether these pupil groups differed in their competence in reading Spanish.

Findings

English Performance of Spanish-Dominant Students

Table 6.1 shows the results of administration of the Stanford Achievement Tests to Spanish-dominant pupils in third through sixth grades. As can be seen in the table, in all components and subtests there was a trend for scores to be higher in the higher grade levels, although the trend suggests a growth rate much slower than that anticipated by program planners. Mean grade equivalents in the Model School program were close to levels expected for the third-grade groups, but much lower than expected in the fourth through sixth grade.

To see the extent to which the mean grade outcome was due to high rates of turnover among Spanish-dominant pupils, a longitudinal analysis was made for Model A. Results of this analysis, in Table 6.2, show rate of change for scores of pupils who were tested in fourth through sixth grades in Spring 1975, and who were also program participants when they were in the third grade.

Cohort 1 consisted of the group of Spanish-dominant pupils first tested as third graders in 1972. These pupils grew an average of three months of grade equivalent each year in Word Meaning, Paragraph Meaning, and Word Study Skills. Their spelling grade-equivalent score grew at six months per year.

Cohort 2 consisted of pupils enrolled in the Model A third grade in 1973, and were now in the fifth grade. As the table shows, this group's rate of growth ranged from three to eight months per year. Cohort 3 consisted of students who were in the third grade in 1974 and were now in fourth grade. This group's growth rates ranged from three to seven months per year.

Taken together, these data show that Model A Spanish-dominants' growth in English competence was greater than that which would be summarized from comparison of the performances of pupils enrolled in Grades 3-6 during Spring 1975. They also suggest that the performance of the second and third cohorts of pupils to move through the grades in Model A was superior to the first, "pioneer" group. However, no group of pupils grew one grade equivalent year per year, as project planners had hoped.

Spanish Performance of English-Dominant Students

Table 6.3 shows the results of testing English-dominant pupils in Spanish. To put the mean raw scores in context, the third-grade rural Puerto Rican percentile rank equivalents are shown for each mean score. The table shows that pupils in all grades are well above the third-grade norms on the Letter and Word Recognition subtest. However, this subtest would be effected greatly by maturation, and only minimally by competence in Spanish.

The remaining two subtests, Vocabulary and Paragraph Comprehension, reflect competence in understanding of written Spanish. A progression of scores increasing with grade level was obtained on these subtests, and the sixth-grade scores are approximately those of pupils who were functioning at typical third-grade level.

Table 6.4 shows subgroup means for Spanish- and English-surnamed English-dominant pupils. In fourth and fifth grades, Spanish-surnamed English-dominant pupils clearly performed better than their English-surnamed counterparts. However, by sixth grade the gap between the two ethnic groups was small (about 10 percentile points or one raw score item) on both subtests.

Evaluators' Comments

This analysis of Spanish-dominant pupils' performance on the English Stanford Achievement Primary Battery II show that in 1974-1975, for the first time, there was an increase in score with grade level. They also show that the absence of clear-cut growth grade-levels observed in previous years was probably due to continuous admission of new pupils. The low scores of newly-admitted pupils made it appear as if there was little growth from year to year when in fact there was growth--albeit less than that which project planners had hoped for.

This analysis of Spanish-dominant pupils' performance in English also suggests that the program has improved as it matured. Pupils in the second and third grade cohorts clearly grew more from year to year than did the first, "pioneer" group of pupils.

The tests of English-dominant pupils shows that these pupils are learning to read Spanish well enough so that average fifth-grade pupil scored about as well as a third-grade pupil in rural Puerto Rico. The ethnic breakdowns of the scores suggest that the high level of Spanish competence of English-dominants in the fourth and fifth grade can be attributed in part to the high level of competence of Spanish-surnamed pupils in this area. However, by sixth grade, the English-surnamed pupils' scores were only a few percentile points below those of the Spanish-surnamed. This indicates that pupils with no Hispanic background are mastering Spanish and by sixth grade can work with third-grade materials in that language.

The second language reading findings imply that a high degree of individualization is needed in second language instruction. Pupils need to work at different levels in their second language depending upon their prior experiences and their ethnic backgrounds.

Table 6.1. English Performance of Spanish-dominant Pupils on Stanford Primary Battery II

Group	Word Meaning			Paragraph Meaning			Spelling			Word-Study Skills			Composite
	Mean GE	N	SD	Mean GE	N	SD	Mean GE	N	SD	Mean GE	N	SD	Mean GE
Model A													
3rd Grade	2.2	82	.66	2.1	82	.56	2.1	78	.90	2.2	73	.69	2.2
4th Grade	2.3	72	.79	2.3	76	.73	2.3	72	1.12	2.3	71	.97	2.3
5th Grade	2.5	52	.61	2.3	52	.58	2.8	42	1.10	2.6	42	1.3	2.6
6th Grade	2.5	32	.64	2.4	31	.61	2.8	31	9.4	2.3	32	.96	2.5
Model B													
3rd Grade	1.9	23	.32	1.7	25	.20	1.3	26	.48	---	--	---*	1.6
4th Grade	2.1	14	.54	2.0	14	.37	2.9	15	1.54	2.1	15	.63	2.3
5th Grade	3.0	21	.60	2.8	24	.54	3.5	24	1.29	3.2	16	1.10	3.2
ARRIBA													
3rd Grade	1.7	3	.16	1.8	3	0.8	1.5	3	.40	1.4	3	.16	1.6
4th Grade	1.9	14	.42	2.0	14	.24	1.9	14	.60	2.0	14	.33	2.0
5th Grade	2.6	24	.72	2.3	23	.45	2.0	19	.87	2.4	23	.74	2.3
6th Grade	2.6	18	1.12	2.4	18	.75	2.4	17	.85	2.3	17	.69	2.4

*The teacher of the only third-grade class in Model B did not administer the Word-Study Skills subtest.

Table 6.2. Changes In Spanish-Dominant Model A Pupils' English-Grade Equivalent Scores From the End of Their Third-Grade Year To May 1975

Cohort Group	Subtest	No. of Pupils	Grades	No. of Years	G.E. Change	Mean Change per year
1	Word Mean.	8	3-6	3	.8	.3
	Para.Mean.	8	3-6	3	.8	.3
	Spelling	10	3-6	3	1.8	.6
	Wd.Stud. Sk.	10	3-6	3	.9	.3
2	Word Mean.	12	3-5	2	.7	.4
	Para.Mean.	14	3-5	2	.6	.3
	Spelling	11	3-5	2	1.5	.8
	Wd.Stud. Sk.	12	3-5	2	1.1	.6
3	Word Mean.	39	3-4	1	.3	.3
	Para.Mean.	44	3-4	1	.5	.5
	Spelling	45	3-4	1	.7	.7
	Wd.Stud. Sk.	40	3-4	1	.5	.5

Table 6.3. Performance of English-Dominant Fourth-, Fifth-, and Sixth-Grade Pupils on Spanish Reading Test, Test de destrezas basicas en lectura

Item	Letter and Word Recognition	Word Meaning	Paragraph Comprehension	Composite
Fourth Grade				
Mean Score	59.3	13.7	12.8	86.0
Percentile Rank of Mean*	66	34	43	49
Standard Deviation	5.2	6.4	5.1	14.3
No. of Pupils*	121	120	118	112
Fifth Grade				
Mean Score	60.2	14.8	12.7	88.1
Percentile Rank of Mean*	71	39	42	52
Standard Deviation	3.5	6.2	5.3	13.3
No. of Pupils*	26	26	26	26
Sixth Grade				
Mean Score	62.0	16.5	15.2	94.8
Percentile Rank of Mean*	80	47	51	64
Standard Deviation	4.3	7.1	4.9	15.9
No. of Pupils*	28	28	27	23

*Third-grade, Rural Puerto Rico, end-of-year norms.

Table 6.4. Breakdown of English-Dominant Pupils' Scores on Test de destrezas basicas to Show Performance of English- and Spanish-Surnamed

Group	Vocabulary			Paragraph Comprehension		
	N	Mean Score	Percentile Rank of Mean*	N	Mean Score	Percentile Rank of Mean*
Grade 4						
English-Surnamed	87	11.7	24	35	11.4	37
Spanish-Surnamed	33	19.0	60	33	16.8	59
Grade 5						
English-Surnamed	13	11.5	24	13	10.2	21
Spanish-Surnamed	13	18.1	55	13	15.3	52
Grade 6						
English-Surnamed	13	15.8	44	13	14.6	49
Spanish-Surnamed	15	17.1	51	14	15.8	54

*Third-grade, Rural Puerto Rico, end-of-year norms.

CHAPTER 7. SPANISH READING PERFORMANCE IN THE JUNIOR AND SENIOR HIGH SCHOOL ARRIBA PROGRAM

The junior and senior high school ARRIBA program is designed to preserve and enhance students' competence in their mother tongue. In 1968, before bilingual programs were initiated, all Spanish-dominant pupils in junior high school seventh and eighth grades were tested in Spanish (Desing, 1968). The performance of these preprogram junior high school students served as a comparison group against which improvement brought about by ARRIBA could be assessed. It was expected that pupils in the program would show significantly better performance than pupils in the baseline group.

Ninth- through twelfth-grade pupils were not tested before implementation of bilingual education. It was hoped that pupils at this level would be performing at levels with similar percentile equivalents to those observed in the seventh and eighth grades--levels above those of the baseline group.

The ARRIBA bilingual program attempted to provide continuous Spanish-language instruction and, thereby, to preserve the students' competence in their mother tongue. If the program was effective, it was anticipated that pupils who had continuous Spanish instruction would perform better than pupils from a Spanish-speaking country who had one or more years of all-English instruction, and then resumed Spanish instruction when they entered the bilingual program.

The ARRIBA component attempted to improve competence of Spanish-speaking participants through instruction geared to students who lacked competence in English. These were primarily new, port-of-entry students. The two junior and four senior high schools studied in this chapter provided grade-level-appropriate instruction in science, mathematics, and social studies in Spanish. Pupils also received instruction in Spanish-first-language and English-second-language. With the exception of English, instruction was provided by native Spanish speakers. The development of Spanish reading skills was emphasized in the Spanish-first-language course. Opportunity was provided for reinforcement of these skills in the other subject classes taught in Spanish. In the junior high schools, students received all instruction in academic subjects in ARRIBA classes. In the high schools, students could elect a mix of ARRIBA and regular English subject offerings.

Previous Findings

Senior high students were not tested prior to the 1974-1975 school year and evaluation of Spanish reading performance at the secondary level was confined to junior high school. In the spring of 1968, prior to initiation of bilingual education, citywide testing of Spanish-speaking pupils was conducted (Desing, 1968). In the seventh and eighth grades, the Inter-American Reading Test in Spanish

(Level 4 CEs) was used. In the spring of 1972, 1973, and 1974 similar testing was conducted in the bilingual program and results were compared with the 1968 comparison data.

Before the initiation of the bilingual program, the typical reading level was between the 8th and 9th percentiles on the norms established in Puerto Rico. In the years since 1972, program evaluations have shown pupils in seventh and eighth grades of ARRIBA to be performing better than the 1968 baseline group, at a statistically significant level. Scores of ninth-grade pupils have generally been inconsistent from year to year, varying from the 9th percentile in 1972 to the 31.5th percentile in 1974. In the 1973-1974 school year, pupils were interviewed to determine if there were years in which they received only English instruction. A significant negative correlation was found between the number of years the pupils studied in English and their test scores. This finding suggested that Spanish competence was, indeed, degraded when pupils came from Puerto Rico, were enrolled in an all-English program, and then were enrolled in a bilingual program.

Evaluation Procedure

The procedure of this study was a replication of that used in previous years in the junior high schools and was similar to that used to collect the 1968 pre-program comparison group data.

All pupils present on the testing day in the two junior high schools and four senior high schools of ARRIBA were tested. Of the 206 junior high school pupils served by the program, 153 completed the examination. Of the 278 high school students served by the program during the year, 162 completed the examination.

On each of the designated testing days, the members of the evaluation staff visited the schools. They observed the teachers administering the tests to the children in their own classrooms. The testing was conducted in one morning in each school, with 10-minute breaks between the subtests. This testing occurred during the second half of May and early June, approximately the same time of year that the comparison-group data were gathered. No opportunity for make-up tests was given.

The Inter-American Spanish Reading Test is designed to assess the reading competence of junior high school pupils. It consists of three subtests: Vocabulary, Level of Comprehension, and Speed of Comprehension. The composite score of the test is the total of the raw scores on the subtests. L-4-CEs is designed for use in junior high school grades; L-5 -CEs is designed for use in senior high school grades.

Analysis of variance was used to compare the performance of seventh- and eighth-grade pupils in the program with that of the preprogram comparison group. Descriptive statistics were calculated for the ninth-grade and high school pupils as no preprogram data were available. Correlation coefficients were computed to show the relationship between students' years in all-English programs and the level of performance for one level--tenth grade.

Findings

Seventh and Eighth Grades

As shown in Table 7.1, typical pupils in the ARRIBA seventh and eighth grades performed better than their preprogram counterparts. However, the significance level ($p<.08$) was in the borderline region. The percentile rank equivalent of eighth-grade pupils tested in the spring of 1975 was six percentile points higher than that of the comparison group; that of ninth-grade pupils was four points higher.

Ninth Grade

The 45 ninth-grade students' average score was 29.4, with a standard deviation of 14.3. The mean score put the average ninth-grade pupil at the 10th percentile on Puerto Rican norms. This was somewhat better than the 9th percentile achieved in 1971-1972, but not as good as the 20th percentile obtained in 1972-1973 or the 13th percentile obtained in 1973-1974.

High School

The results of the first testing of ARRIBA high school students is shown in Table 7.2. These scores are low; no grade-level mean was above the 11th percentile. Tenth-grade pupils scored the poorest; both mean raw scores and percentile rank of the mean was lower at that level than in the eleventh and twelfth grades. It was, infact, not different from the mean which would be obtained by chance if every response had been a guess.

Prior to conducting this testing, project management was aware that the ARRIBA group was very heterogeneous--including many pupils who had several years of all-English instruction between mother-country and U.S. instruction in Spanish. For this reason, further analysis of the tenth-grade results was undertaken.

According to the program pupil information file, 34 tenth-grade students were identified who had attended school for 10 or 11 years, either in Philadelphia or Puerto Rico. The number of years that these students were enrolled in all-English instruction in Philadelphia schools (not in ARRIBA) was correlated with

their score on the Inter-American Reading Tests. The obtained Pearson product-moment was -.226 (df=33). Fisher Z' transformation of the correlation coefficient showed that a relationship this strong would be obtained by chance less than seven times in 100. This suggests that high school pupils' Spanish reading competence was reduced because many pupils had received all-English instruction for some years.

School enrollment information for the remaining tenth-grade pupils was also examined. Eleven pupils were found to have attended school for less than 10 years. These pupils' scores averaged 22.6 (approximately the 3rd percentile). These results suggest that over-all high school student performance may have been reduced because one-sixth of the students had not attended school as many years as their grade level would suggest.

Evaluators' Comments

This study confirms the finding of previous years--that seventh- and eighth-grade ARRIBA pupils outperform preprogram comparison groups. The results also continue to show that this pupil performance is lower than that of pupils in the test maker's island-wide Puerto Rican norms. Analysis of the tenth-grade data suggests that a discontinuity in the pupils instruction--a switch between instruction in Spanish and English or years of no school attendance--probably contribute to the low performance levels.

Table 7.1. Performance of ARRIBA Students on Inter-American Reading Test: Comparison of 7th- and 8th-Grade Students with Pre-Program Comparison Groups.

Item	Pre-Program	ARRIBA
Seventh Grade		
Mean Raw Score	20.1	22.7
Percentile Rank of Mean*	9	15
Standard Deviation	12.3	9.7
Number of Students	98	54
Eight Grade		
Mean Raw Score	24.1	26.9
Percentile Rank of Mean*	8	12
Standard Deviation	14.8	10.7
Number of Students	82	54

Analysis of Variance of Raw Scores

Source	MS	df	F	p<
Grade	1250.4	1	8.1	.005
Program	477.5	1	3.1	.08
Grade X Program	1.4	1	0.0	NS
Within Cells	153	284	---	---

*Puerto Rican Public School End-of-year Norms

Table 7.2. Senior High School Students' Scores on the Inter-American Test of Reading, Level 5.

Item	Grade 10	Grade 11	Grade 12
Mean	24.6	32.8	32.4
Percentile Rank of Mean*	5	11	9
Standard Deviation	10.5	13.3	11.3
Number of Students	64	71	27

*Puerto Rican public school end-of-year norms.

CHAPTER 8. PARTICIPATION IN THE ARRIBA PROGRAM IN TENTH GRADE AND GRADUATION PREVALENCE IN TWELFTH GRADE

One major objective of the ARRIBA component was to reduce dropout incidence of pupils in its high school level. Thus, the evaluation was designed to answer the question, "Are Hispanic students who participate in the ARRIBA program in the tenth grade more likely to graduate three years later than those who do not participate in the tenth grade?"

The ARRIBA high school program has remained basically unchanged over the three years during which the students examined in this study were in school. Instruction was offered in ESOL (English to Speakers of Other Languages), SFL (Spanish as a first language), as was science (including biology and chemistry), social studies, and mathematics (including algebra and geometry) in Spanish. In addition to the regular program, Kensington High School also offered course work in commercial subjects in Spanish. Where appropriate, courses have emphasized Hispanic and Latin American content. The Spanish-dominant students of the four high schools can select one or more of the courses offered on the advice of their counselors. The course work in Spanish is taught by teachers who are native Spanish speakers, while the ESOL classes are taught by teachers who have fluency in Spanish. This eliminates, to a large extent, misunderstandings arising from language problems.

Previous Findings

The main reason for computing dropout rates was to show whether the ARRIBA program has increased the probability that a student would graduate from school. The 1971-1972 and 1972-1973 evaluation reports showed that the ARRIBA program was effective in preventing students from dropping out during the school year. In these years, the percentage of program participants dropping out between October and March was computed. The results of these computations were compared with parallel data for Spanish-dominant students attending the four high schools in the year before the program was initiated (1968-1969). These results suggested that the program was effective in eliminating many tenth- and eleventh-grade dropouts during the time when school was in session for students who were enrolled in ARRIBA program.

Since 1970, a student-by-student record has been kept for program participants. This record permitted the project to assess the effect of participation in the ARRIBA program during tenth grade on the proportion of students who graduated from school in the current year.

Longitudinal studies of this type were carried out in 1973 and 1974. Pupils enrolled in ARRIBA in the tenth grade three years prior (1970 and 1971) were

compared with two groups of Spanish-surnamed pupils who were in the same grade levels in those years. The comparison groups were pupils enrolled in the high schools served by ARRIBA and pupils enrolled in any Philadelphia public high school. Results in 1973 showed more ARRIBA pupils graduated than did the pupils of either comparison group. In 1974, results showed that ARRIBA pupils graduated more often than those in the same school comparison. The difference, in favor of the ARRIBA group, was not statistically significant in the school-system-wide comparison.

Evaluation Procedure

The subjects of this study consisted of all Spanish-surnamed students listed in the computerized citywide pupil directory who were in tenth grade in December 1972.

Forty-six of these were students who according to project records, participated in Let's Be Amigos in the tenth grade. Students not listed in the Let's Be Amigos pupil file were the control group. The current pupil directory was used to identify any students who had changed schools due to moving. Graduation lists were then checked to determine whether each student had graduated in the spring of 1975. Pupils who transferred from the Philadelphia public schools to attend school elsewhere were eliminated from all groups.

The percentage of students graduating was computed for each of these groups--tenth-grade pupils served by ARRIBAs' other pupils in the same schools, and pupils in schools not served by ARRIBA. Chi-squares were computed to determine the statistical significance of the differences observed.

Findings

Table 8.1 shows the graduation rates of ARRIBA students and other Spanish-surnamed students in the schools served by the program. The percent graduated column shows that ARRIBA pupils were two and a half times more likely to graduate than were other Spanish-surnamed pupils. The chi-square shows that this result could be obtained by chance less than one time in a thousand.

Table 8.2 shows the comparison of ARRIBA pupils with all other tenth-grade Spanish-surnamed pupils enrolled in the city. The graduation rate of the ARRIBA pupils was one and a half times that of the city wide group. The chi-square describing this comparison was at the borderline of statistical significance, showing that the difference between the groups would occur by chance less than one time in ten.

Evaluators' Comments

Five year's studies of the impact on graduation rates of the Let's Be Amigos high-school ARRIBA component point to one conclusion: program participants

are more likely to remain in school and graduate than are other Hispanic pupils. This has been demonstrated in comparisons with preprogram data and with pupils attending school at the same time. These highly systematic findings have been obtained even when selection factors--the pupils' mastery of English before the tenth grade, and socioeconomic status create biases against the outcome desired by the program (see the 1973 evaluation study).

Table 8.1. Graduation Rate of Spanish-Surnamed Students Who Were in Grade 10 in December 1972. (Same-School Comparison)

Group	Graduated		Not Graduated		Total	
	N	%	N	%	N	%
In ARRIBA	17	(37)	29	(63)	46	(100)
Not in ARRIBA (same schools)	30	(15)	176	(85)	206	(100)

Chi-square= 11.0 df = 1 p<.001

Table 8.2. Graduation Rate of Spanish-Surnamed Students in Grade 10 in December 1972. (Citywide Comparison)

Group	Graduated		Not Graduated		Total	
	N	%	N	%	N	%
In ARRIBA	17	(37)	29	(63)	46	(100)
Not in ARRIBA (citywide)	89	(24)	288	(76)	377	(100)

Chi-Square= 3.21 df = 1 p<.10

CHAPTER 9. SELF-ESTEEM OF SPANISH-DOMINANT STUDENTS

One major goal of the Let's Be Amigos program is the enhancement of the self-esteem or self-concept of its participants. While this is important for all children, it is especially so for Spanish-dominant children because, as Zirkel (1971) has observed, the self-concept of Puerto Ricans in general is probably lower than that of either black or white students.

The Let's Be Amigos program tried to bring about an increase in self-esteem in the Spanish-dominant pupil group through (a) provision of instruction in the pupils' mother tongue, (b) use of native speakers of the pupils' mother tongue as instructors, and (c) emphasis on Puerto Rican and Hispanic culture in the subject matter of instruction and in schoolwide celebrations of holidays. The purpose of this study is to see whether these elements of the bilingual program have, in fact, had the desired effect.

Previous Findings

Related evaluation was conducted during the first two years of operation of the program. In that research, teachers rated pupil behavior on the Devereux Elementary School Behavior Rating Scale (Spivak and Swift, 1967). In part of that research, the comparison was made between ratings made of the same child by his Englishspeaking teacher and his Spanish-speaking teacher. Results showed that there was no relationship between teacher background and pupil background for the maladaptive behaviors rated on the instrument. They also showed that there was an interaction between teacher ethnic background and pupil ethnic background for the adaptive behaviors rated on the instrument--teachers rated pupils of the same background as their own as exhibiting more adaptive behaviors. As Combs (1952) has reported that children seem to incorporate teacher judgments and begin to behave as expected, the wide use of teachers of Hispanic background was expected to result in increased self-esteem of the pupils.

In the year 1973-1974, a locally developed and validated Spanish version of the Coopersmith Self-Esteem Inventory (CSEI - S) was administered to 265 pupils in the Let's Be Amigos and English to Speakers of Other Languages projects enrolled in Grades 4-12. Analysis showed that there was little difference between elementary and junior high school pupils. Among senior high school pupils, significant differences were observed--Let's Be Amigos students had higher self-esteem than had ESOL students in the same grade level.

Evaluation Procedure

The Coopersmith Self-Esteem Inventory is widely used to measure self-esteem of school children (Campbell, 1965; Zirkel, 1971; Trowbridge, 1970 and 1972;

Coopersmith, 1967). It consists of 50 items measuring esteem and an eight-item "lie" scale. The self-esteem items on the instrument measure four areas--General Self (26 items), Social-Peers (eight items), Home-Parent (eight items), and School-Academic (eight items). A Spanish translation of the instrument was prepared by a member of the research staff in consultation with the project director. During the summer of 1973, this Spanish version was tried with 30 Spanish-dominant pupils from Grades 5-10 who were in a voluntary summer program operated by the Philadelphia schools. Item analysis carried out on the results of this testing led to the revision of selected items and preparation of a second Spanish version of the instrument. This second version was used to conduct the evaluation of the program.

A random sample of 127 Spanish dominants was selected from all Grade 4-12 students served by the Model A and ARRIBA components who were present on the test administration day. The comparison sample group consisted of 100 same-grade students enrolled in 1973-1974 ESOL classes in seven schools. Because of limited evaluation resources, new comparison-group data could not be collected in 1974-1975.

In January and February, a bilingual native Spanish-speaking member of the program-evaluation staff administered the CSEI-S to students in groups. To minimize the effects of reading competence in Spanish, the directions and items were read aloud. The student groups responded to each item as it was read. Analysis of results was based on the composite score of the CSEI-S and the "lie" scale. When it appeared that there might be a relationship between a pupil's high self-esteem score and his high "lie" score, analysis of covariance was used to minimize the chance that different propensities to lie in the program and comparison groups might account for other observed differences.

Findings

The mean scores, adjusted for "lie" scores, obtained by pupils in the program in 1974-1975 and in the comparison group are shown in Table 9.1. Analysis of covariance of these results is shown in Table 9 .2. Examination of the means shows that in 1974-1975, bilingual pupils, self-esteem scores rose with increasing grade level, whereas in the 1973-1974 comparison group they declined in each higher grade level. This resulted in a significant grade-treatment interaction. When the overall scores of the Let's Be Amigos and comparison group were examined, it is clear that at lower grade levels the comparison group's scores were markedly higher than the program group's. At the high school level, however, the two scores converged.

The analysis of covariance also showed a significant interaction between sex and treatment. Females had higher self-esteem scores in the comparison group. Males had higher self-esteem scores in the comparison group. There was also

a grade-by-sex interaction showing that, when both treatment groups were combined, females had higher self-esteem scores than males in the elementary and junior high school levels, but males had higher scores at the senior high school level.

Evaluators' Comments

The 1974-1975 administration of the Coopersmith Self Esteem Inventory in Spanish was intended to be a replication study to confirm the previous year's findings. It is clear that the data obtained in 1974-1975 did not replicate them. The evaluator believes that this result was due to the design compromise made when evaluation resources were reduced--the 1973-1974 control group was used for comparison. In 1973-1974, the same person administered the instrument to the Let's Be Amigos group and the comparison group. The design for 1975-1976 called for replication of the Let's Be Amigos derived data only. A different evaluation staff member, of different sex, read each item. This difference, and any changes in the schools' environment, are confounded with the impact of the Let's Be Amigos program.

It appears that if self-esteem is to be studied using the Coopersmith instrument in the context of this program, both Let's Be Amigos and comparison group data must be collected at the same time, and under the same conditions. Until that time, there can be no determination of whether the 1973-1974 findings were valid.

Table 9.1. Adjusted Mean Self-Esteem Score, with Lie-Scale Effects Taken into Account

Group	Grades 4-6		Grades 7-9		Grades 10-12		All Grades	
	N	Score	N	Score	N	Score	N	Score
Comparison Group 1973-1974								
Male	7	37.3	28	34.6	14	35.0	49	35.1
Female	14	39.6	18	37.2	19	35.0	51	37.0
Total	21	38.9	46	35.6	33	35.0	100	36.1
Let's Be Amigos 1974-1975								
Male	26	29.2	15	29.7	23	38.6	64	32.7
Female	23	29.4	14	33.9	26	32.9	63	31.9
Total	49	29.3	29	31.7	49	35.6	127	32.3
Both Treatment Groups								
Male	33	30.9	43	32.9	37	37.3	113	33.8
Female	37	33.3	32	35.8	45	33.8	114	34.1
Total	70	32.2	75	34.1	82	35.4	227	34.0

Table 9.2. Analysis of Covariance Comparing Self-Esteem of Bilingual Program and English-as-a-Second Language Program Students

Variables	MS	df	F	P<
Program (P)	302.5	1	19.2	.001
Sex (S)	8.0	1	0.2	NS
Grade Level (G)	134.6	2	3.2	.05
P X S	111.6	1	2.7	NS
P X G	419.3	2	10.0	.001
S X G	192.3	2	4.6	.02
P X S X G	61.8	2	1.4	NS
Within Cells	41.8	214	----	----
Regression	10.5	1	0.25	NS

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